



# Two cheers for the CIA

BY PETER RIDDELL

TRADE ASSOCIATIONS for individual sectors are seldom the source of wide-ranging or deep thoughts about the economy as a whole, so the Chemical Industries Association deserves at least two cheers for its analysis and criticisms of the Treasury's medium-term "scenarios" presented to the Nedd Council earlier this month. The two "scenarios" for the rest of the decade—one based on the continuation of past slotful trends and the other on hard work, virtue and a better performance—are supposed to provide a baseline for discussions of the various Nedd sectors working together about the medium-term see whether the imply feasible growth rates.

The projections are specifically not intended to be part of sterile "numbers games" or an inflexible national plan. But the difficulty about producing such "scenarios" for illustrative purposes is that they tend to lose touch with reality and action.

## Unrealistic

Even taking the assumptions at face value—which is more than many critics would—the Chemical Industries Association believes the projected rate of growth for chemicals under the more optimistic projection is arbitrary and unrealistic.

The improved performance scenario, which is better than any period since 1960, is criticised because it requires a strong and almost instantaneous increase in the British market share of the highly competitive international chemicals sector over and above the already formidable increase in world market share foreseen in the Chemicals Economic Development Committee forecast. It is also questionable whether over the period to 1979 physical capacity could actually be increased sufficiently to meet the projected growth rates, given plant design, supply and construction lead times.

High objectives are all very well, but both their usefulness and origin become questionable when they are, in the CIA's words, "quite incompatible" with detailed work carried out by the industry itself in the Chemicals EDC. The chemical industry can fairly be regarded as one of the more efficient and ambitious, so one wonders how others are going to grow at rates over a third faster than for any period in the last decade and a half.

## Conversion to natural gas now completed

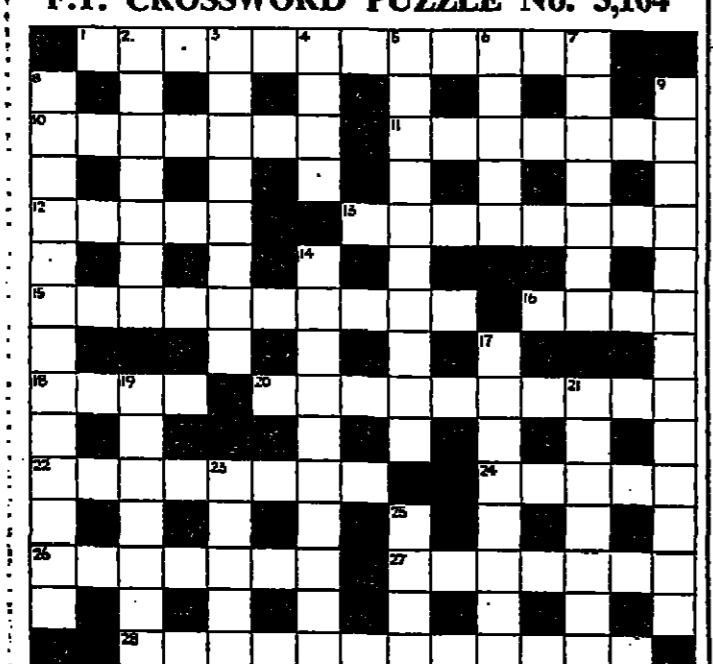
THE CONVERSION to natural gas throughout the North Thames Gas region ends in London to-day, bringing to an end a massive 10-year programme in England and Wales.

## TV/Radio

### BBC 1

Indicates programme in black and white  
7.35 a.m. Open University (UHF only). 9.45 Dastardly and Muttley in their flying machines. 9.50 Jackanory. 10.05 Devilin. 10.30 Roobarb. 10.35 Boy and Horse. Story from Russia, part 1. 1.30 Peter Truman. 1.45 News. 2.45 Generation to Generation. 4.23 National News (except London). 4.25 Play School. 4.50 Go With Nokes. 5.15 Play Away. 5.45 News. 6.00 Nationwide. 6.50 Glen Campbell Music Show. 7.20 Ellery Queen Whodunit. 8.10 Great Alliance. 9.00 News. 10.25 Dirk Bogarde in "The Blue Lamp," also starring Jack Warner and Jimmy Hanley.

### F.T. CROSSWORD PUZZLE No. 3,164



The solution of last Saturday's prize puzzle will be published with names of winners next Saturday.

## SPORT

# Leeds need to replace yesterday's top men

IT WILL take more than Leeds' wincingly. They had snatched United's two goals inside the last six minutes to achieve a 2-2 draw against West Bromwich Albion at Elland Road to eradicate the impression that they are mostly yesterday's men.

Surely more will be needed than the versatile talents of Tony Currie, £20,000 recruit from Sheffield United, to compensate for the effects of anne domini on what is still very much the same side that Don Revie built.

## Hatchet man

Currie played from just in front of a back four whose staleness, squareness and slowness indicated their need for his close company.

He improved on—if that is the right expression—Hunter as a hatchet man and ball winner.

He bettered Giles, back as Albion's player-manager, who was his predecessor as the launching master of Leeds' attacks. And, as if he had not already made double the contribution of any of his new colleagues, he was United's most vital shot.

However, that is more condemnation of the Leeds front men than praise for Currie's shooting, which was more notable for its power than its accuracy. Still, he had to travel further to shoot at all.

West Bromwich will be kick-ing themselves for failing to clinch the victory they had fought for so hard and so con-

siderably. They had snatched their goals by stealthy poaching that exposed the creakiness of the home defence.

They virtually provoked that late Leeds rally by devoting most of the second half to backwards, forwards and sideways possession football—a real piece of chutzpah from the newly-promoted upstarts, for Leeds are renowned experts at killing time when they think they have scored enough to achieve the desired result.

Albion's Irishmen, Giles and Mulligan, were the principals in their time-without-motion exercise. Their Brysons, Alastair (six minutes), and Tony (43 minutes) had struck sharply to snatch the

six minutes from time Harris, who had substituted for the ineffective Lorimer 15 minutes earlier, capped centre-forward McNamee's cross.

With only a minute left Clarke, who had contributed little in 89 minutes, first-timed into goal Cherry's cross from the right.

This storming finish sent Leeds away happy enough. But their side had been outmanoeuvred for 94 minutes by a team of honest journeymen who surely lack the depth of skill to do much more than survive in the First Division.

**Essential**

Since all but £40,000 of his investment on Currie has been recouped by the departure of McKenzie to Belgium—desirable though the wisdom of that transaction appears to many critics—Mr. Jimmy Armfield can dig fairly deeply into his club's substantial season-ticket receipts to recruit another top-level player of experience in the essential overture rebuilding of his side. It would be presumptuous to specify his priority.

It appears that he is ready to sell Yorath, Wales captain, for about £100,000. Yorath, suspended, could not play on Saturday, nor did Bremer, the club captain, said to be suffering from a cold.

The folly of Albion's possession play, largely in their own half, was that the Leeds' defenders were no longer under pressure and were compelled to move forward for a sniff of the ball.

It seems likely to be a season of change for Leeds. It needs to be if they are to regain the high level of success which eluded them last season.

They had not arrived for the official reception on Saturday night, but officials insisted that they would arrive in time for yesterday's opening ceremony.

It will be extremely disappointing if political pressures disturb what promises to be the biggest and best Federation Cup meeting yet staged. The stationing of armed guards on the 18th floor of the Hilton Hotel, where the controversial teams are staying, is a sad commentary on the involvement of politics in modern sport.

The 32 teams will be playing indoors for the first time—in Philadelphia's mammoth Spectrum Stadium, with some of the preliminary rounds played at the University of Pennsylvania's Levy Pavilion.

Favourites for the U.S. £100,000 first prize are the U.S., for whom Chris Evert appears for the first time. The captain is Billie Jean King, who, between 1963 and 1967, recorded 31 wins and four losses (all in singles) in 19 Federation Cup appearances.

They had a disappointing series as a player, and showed con-

siderable naivety as captain. He is a good attacking batsman, fine fielder and, if he concentrates

entirely on one style of bowling, might prove as effective an off-spinner in India as he was in the Caribbean.

Dennis, on his return to the international arena, displayed character and ability, even if doubts remain about his new technique against pace on fast pitches, while the two from Kent have the figures to justify their claims.

A further 13 names need to be added to these four, which leaves room for a reserve keeper, six batsmen, two spinners and a division four seamers.

Tolchard is the obvious choice. If Old is unable to make second keeper and, because tour, he would be a splendidly aggressive player of slow bowling, could who can bowl fast, even if well command a Test place on no first-class experience.

My batsmen would be Barlow, Oxford University, is poss-

# Again the peril is politics

THE 14TH Federation Cup competition, the women's equivalent of the Davis Cup, and sponsored for the first time, in the tune of \$120,000 by Colgate-Palmolive, began last night in Philadelphia in the same atmosphere of political uncertainty as bedevilled the start of the Olympic Games in Montreal.

The presence in Philadelphia of the 1972 holders, South Africa, along with Rhodesia seems likely to precipitate the withdrawal of Indonesia and the Philippines, whose captains were expecting yesterday to receive orders from their governments to return home.

Unofficial sources reported that Dennis Brutus, who stoned the political pudding in Montreal, has been doing the same job here.

There was a mystery about the whereabouts of the third-seeded Russian team who, with

## TENNIS

BY JOHN BARRETT

the 1974 Wimbledon finalist Olga Morozova and the fast-improving Wimbledon junior champion Natasha Chmyreva, must have had outside chance of winning their first Federation Cup title.

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# Gamble on teenage batsman Athey for Indian tour

AFTER THE humiliating way the West Indies have exposed the limitations of English cricket at both national and county level, a worried supporter, not to mention the perplexed selectors, could be excused for asking: Where do we go from here?

The simple answer is India, for what is bound to be a difficult tour against quality spin bowlers on slow, possibly sympathetic pitches and good batting.

The problem is that Test cricket, to be followed immediately by an exhibition Test in Melbourne marking 100 years of cricket against Australia, and the arrival over here of the Aussies this summer.

The problem is to decide who to take on tour. The coming one-day internationals are no guide to Test cricket.

The English XI, unopposed against the tourists would probably lose in India, and would surely be slaughtered by the Australians. In view of the rights and the selected sides, no combination in this country would have beaten Clive Lloyd and company.

In such circumstances the only sensible course is to consider the future in the hope of finding some international-class cricketers during the next three years not merely to look at the present and back into the past.

## Four certain

The certainties for India are surely the four players who are still in their prime and have proved themselves at Test level.

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In terms of services to Steels would be a logical continuation, but I favour Lloyd, Lancashire, left-handed, a consistent player of spin, I would probably Fletcher would more likely to score a win in a Test on a turning pitch.

Edmonds and Miller as only two improving spinners fall into the all-rounder cat-

## CRICKET

BY TREVOR BAKER

though the latter may not be effective bowler as theshire off-spinner Copeland.

As to the seamers, Miller a real all-rounder who becomes an outstanding Old. Miller is also an all-rounder at least against spin.

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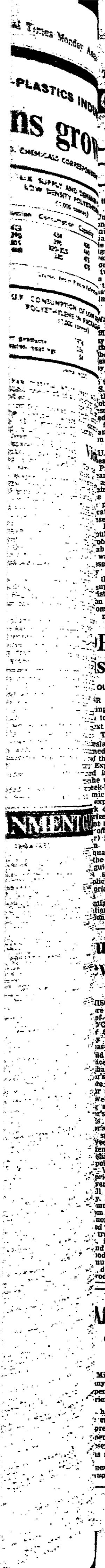
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## OVERSEAS NEWS

## U.S. group envoy confer with Christians in Jounieh

INSAN HIZAJI

United States Government's support it in order to preserve America's wide interests within the Middle East. The American leaders are believed by informed sources here to be Washington's growing concern over the growing dangers of Lebanon.

Two diplomats, Mr. Robert and Mr. David Mak are to be Middle East experts served at the American Embassy.

The U.S. had given implicit support to the Syrian intervention in Lebanon as long as it was aimed at taming the Palestinian guerrillas.

Diplomatic sources said Washington now feels the Syrian initiative is deadlocked unless the Syrian troops move to finish off the crisis soon.

The instructions date from the assassination in June of S. Ambassador Francis, the counsellor of embassy, short. Waring and their driver. The three were killed and later killed as they from the Moslem to the quarters of Beirut from Mr. Francis.

At the same time, Mr. Pierre Gemayel, the leader of the Phalangist party, Lebanon's largest Christian district, has announced plans for the enlargement of the port of Jounieh and the construction of an airport in the Christian-held areas. The plans were seen as part of steps to make the Christian enclave self-sufficient.

It was Mr. Gemayel who had set off a wave of speculations about a partition when he called for restructuring the Lebanese government system on the basis of decentralisation. He made the proposal only 24 hours after right-wing forces 10 days ago captured the Palestinian camp of Tal al Zaatar, which was the Christian State in the last Palestinian and Moslem enclave at the southeastern end of Beirut.

The U.S. Government, through Mr. Brown, the special

President Ford had sent

partly this year, went on

an opposing partition.

Washington is reported to feel

the of a Christian State in

parts of Lebanon would

not only the Christian

situation but the

East problem as well,

but create an embarrassing

problem for U.S. policy in

the world. While here, Mr. was reported to have told

leaders the U.S. had

trouble with the Arab

world because

support for Israel. Should

the Christian State emerge in

last Palestinian and Moslem

stronghold in the Christian

enclave at the southeastern end

of Beirut. Wash-

ington might not be able to

arrive in

Vienna on August 26.

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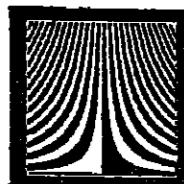
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# The Technical Page

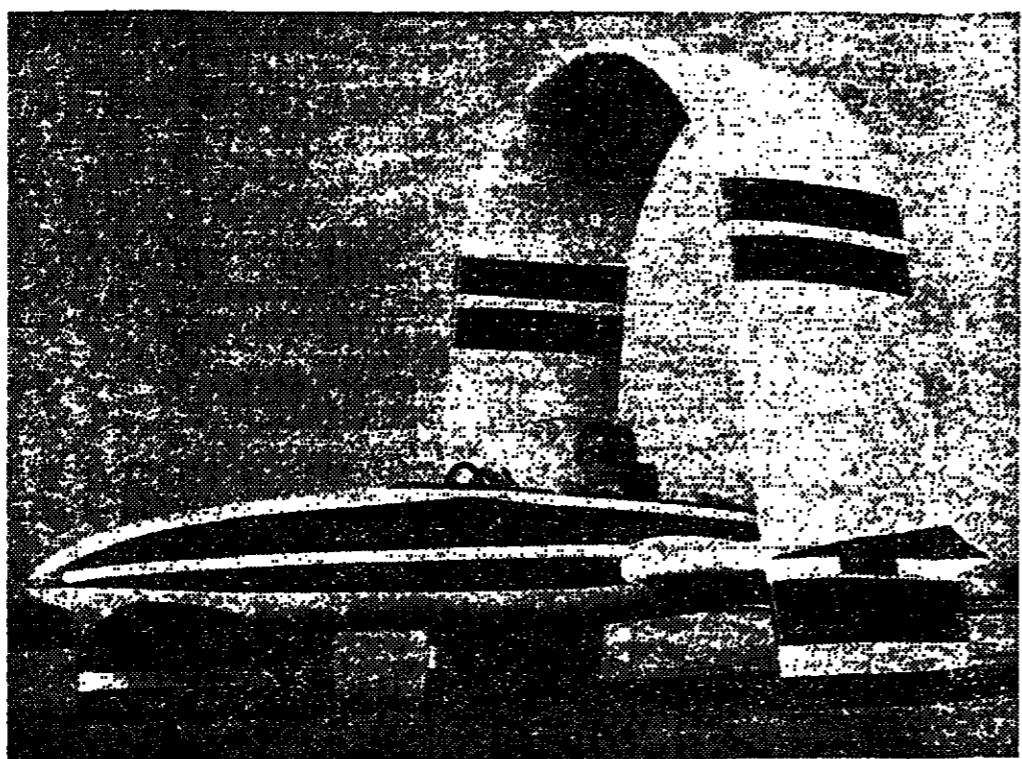
EDITED BY ARTHUR BENNETT AND TED SCHOETERS

## Electric car makes use of the wind

This wind and battery powered car—dubbed the rainbow, after its arched "sail"—may be in production in the U.S. by the year's end. Invented in 1973 by a former research engineer at the University of Michigan, James Amick, the car came to the attention of Mark Goldes, who last year founded Sunwind a research and development company, which so far has spent \$US 25,000 on it and the research it has entailed. It is claimed that the prototype, which seats one person, has in recent tests shown it can maintain a speed of 55 mph for 250 miles with only an 8 mph cross wind. With no wind at all the car will go 33 miles at a speed of 40 mph, and 60 miles at 25 mph.

The basic design and principle of the vehicle was worked out by Amick and based on a recreational car he first built in 1969, which might be described as a sailing ice-boat. Wheels were designed for the car, and the car was eventually tested at the Bonneville salt flats where it achieved a speed of 60 miles an hour.

Batteries are mounted in each of two of the three wheel



housings and the wind is used to recharge them whenever the power produced by the wind is being used to propel the car.

In kit form the car will cost \$US 3,500. Assembled, and with batteries, it will retail for \$US 5,500. At the end of 1977 Sunwind hopes to be marketing

a two-passenger car but in the meantime it has granted licences for production to three companies.

Ideas for future development of the car are being centred on making the "sail" retractable, on the incorporation of a vertical axis turbine which would be wind-driven and used to store

energy, even while the car is stationary, and on the use of solar cells.

The car is being marketed by Sunwind of Sebastopol, California and technical details can be obtained from James Amick, 1464 Cedar Bend Drive, Ann Arbor, Michigan 481 05.

reconnections are made without crossover. The units are stated to be suitable for petrochemical, chemical, nuclear and medical applications. The maker is at Selecta House, Trent Bridge, Newark, Notts. NG2 1EU (0636 71748).

## TRANSPORT

### Watches the earthing

VEHICLES such as road fuel tankers are prone to static electricity build-up both before and during loading operations and the normal way of preventing problems is to connect the vehicle to a good earth before operations commence.

According to Texcel Electronics, however, danger arises when the earth connection deteriorates and so it has put on to the market the Safe-T-Ground. TR6 device. This pro-

vides a dual path from the vehicle to earth and automatically shuts off power as soon as it detects a resistance greater than four ohms across the earth path. Alarm contacts and lights provide aural and visual signals of the danger. More from 13, Cunningham Hill Road, St Albans, Herts AL1 5BX (St Albans 54582).

## LUBRICATION

### Sends oil round the system

A MOTORISED pump/tank unit has been added to the range of oil recirculation and total loss lubrication systems made by Bielomatik, London, Cotswood Street, London, SE27 0DP (01-781 1211).

The pump is capable of delivering between 30 and 60 impulses/minute. It will supply "one-shot" centralised systems of up to 300 lubrication points.

The unit can be used in two configurations. For an oil re-circulation system the motor

operating the pump is controlled automatically by a switch mounted on a bleed block at the end of the main lube pressure line.

Where a total loss system is used, the unit is governed by a controller containing preset timers—these determine the duration of pump running time and the interval between running periods.

There is a facility for feeding two separate lube circuits—say a one-shot recirculatory system on the machine and number of external lube points which could be of the total loss type. This auxiliary circuit would be connected to the pump/tank unit via a solenoid-controlled valve and timer, or similar system.

## METROLOGY

### Measures on its own

FERRANTI has announced a further development of the Cordax three dimensional measuring machine in which all the motions of the probe head are under direct computer control (DCC).

In effect the metrologist simply

watches the machine make the measurements, the motions in the three axes being carried out by high performance five inch per second servo drive systems. The result is better inspection productivity, accuracy, versatility, reproducibility and reduced fixture costs. The three

co-ordinate measurements, x, y and z, appear on large digital displays to an accuracy of  $\pm 0.0005$  inch.

A further development is that

the various measurement programs that have been developed for previous manually-driven heads have been consolidated into a single package, the machine

being given the appropriate lo-

ations by key pad depression on a portable cable-connected box.

For example, the component

does not have to be aligned on the table: the machine will take some 200 axis reference readings and use the alignment of the item as placed on the table. It can also determine polar from cartesian co-ordinates, compute a centre from any three circumferential readings, and so on.

The probe is such that, at the moment it contacts a face (in any direction) an electronic signal causes a read-out from the moire fringe system; the servo stops the head, overshoot having no significance.

Three machines are offered, models 3000, 5000 and 7000. The 5000 for example has measuring ranges of 1.220 mm (48 inches) in X, 810 mm (32 inches) in Y and 405 mm (16 inches) in Z. The elevating table is motorised. Control is from a PDP11 minicomputer with 28k of memory; included is a paper tape reader, 50 ch/sec punch, an LA36 Decwriter and the new control software.

An interesting aspect of the machine is that although the software is such that basic coded commands are easily given by the operator on the 16 key box, it also contains features which can be exploited by more experienced users to provide more complex facilities. More about the Cordax DCC machines can be obtained from Ferranti's Industrial products department, Thornaby Trading Estate, Darlington, Middlebitch EH22 2NG (031-863 2821).

Manufacturers will be offered exclusive manufacturing and marketing rights within their own product areas on the basis of a technology fee plus royalty.

The conductive film itself is sandwiched between the substrate on which it is sprayed and a backing layer of high density polyurethane foam. The substrate would probably be an enameled steel plate which, while offering insulation to the heating current would be reasonably conductive to heat; in this way, most of the heat leaves through the front of the panel. Current is fed in at mains voltage at the opposite edges of a panel using copper strip terminals.

The sprayed film consists of very fine carbon particles in a binder. The sandwiching results in a hermetic seal for the film which is thereby prevented from oxidising. It is claimed that the temperature cycling resulting from central heating regulation will not fatigue the film—it is in any case run at only 0.01 watts per sq. cm yielding a surface temperature of 80 deg. C.

Thus a panel measuring 1.0 x 0.6 metres would dissipate 600 watts, so that a room heating load of say, three kilowatts could be well distributed to produce very even heating.

The company states that the system is "happy" with the system and believes that ultimate manufacturers of the panels and packaging components.

## MATERIALS

### Problems of degradable plastics

THE POSSIBLE disadvantages with the widespread use of degradable plastics appear to outweigh their marginal advantages according to a report published by Yarsley Research Laboratories (a division of Fulmer Research Institute).

Current methods of rendering plastics photo- or bio-degradable are described, and the importance of these materials in relation to

the overall subject of plastics waste disposal is discussed. But the general conclusion is that there are problems with degradable plastics.

For example, special additives incur a risk of contamination of water supplies, while the widespread use of degradables could encourage the general public into thinking that all plastics wrapping can be discarded, aggravating rather than alleviating the litter problem.

Degradable materials are concerned with packaging end-users, says the report, concluding that it is likely that this industry will make increasing use of the more sophisticated materials, such as composite films, where the complex polymer make-up would make effective degradants

more difficult.

The view expressed by the report is that there is a need to consider alternative starting materials for the manufacture of "degradable plastics" based on naturally occurring materials other than oil. Biological recycling of discarded and buried materials could then occur without the need to incorporate special additives.

The report is available at £25 from Fulmer Research Institute, Hollyhock Hill, Stoke Poges, Slough, Bucks, SL2 4QD (Fulmer 2131).

## Heat from a film of lacquer

FROM time to time conductive paints and lacquers are introduced which, although they hold promise for new techniques in surface heating frequently suffer from both short and long term instability effects.

Now a company called Canepac (U.K.) has been formed which will control the manufacture and marketing rights in the U.K. for a process invented by Dr. Reuter in Germany in which, it is claimed, previous shortcomings have been overcome.

Manufacturers will be offered exclusive manufacturing and marketing rights within their own product areas on the basis of a technology fee plus royalty.

The conductive film itself is sandwiched between the substrate on which it is sprayed and a backing layer of high density polyurethane foam. The substrate would probably be an enameled steel plate which, while offering insulation to the heating current would be reasonably conductive to heat; in this way, most of the heat leaves through the front of the panel. Current is fed in at mains voltage at the opposite edges of a panel using copper strip terminals.

The sprayed film consists of very fine carbon particles in a binder. The sandwiching results in a hermetic seal for the film which is thereby prevented from oxidising. It is claimed that the temperature cycling resulting from central heating regulation will not fatigue the film—it is in any case run at only 0.01 watts per sq. cm yielding a surface temperature of 80 deg. C.

Thus a panel measuring 1.0 x 0.6 metres would dissipate 600 watts, so that a room heating load of say, three kilowatts could be well distributed to produce very even heating.

The company states that the system is "happy" with the system and believes that ultimate manufacturers of the panels and packaging components.

## HANDLING

### Helps to stuff long containers

ABLE TO reach to the far end of a 40 foot ISO container, a mobile telescopic cantilevered conveyor has been developed by P. and R. Mechanical Handling, Caerphilly, Cardiff (0222 885505).

Mounted on a castor platform, the conveyor is wheeled into position. Boom height is adjusted hydraulically, and by releasing a small hand-wheel and starting the belt, the boom is extended to whatever length (up to 44 feet) is required. To retract the boom the belt is reversed. The conveyor is driven from the mains by a 1 hp geared electric motor.

Individual loads up to 1 cwt can be carried on the 24-inch wide grip faced rubber belt. Belt speed, in either direction, is 30 feet/min. The retracted length of the conveyor is 12 feet. Minimum loading height is 2 feet and discharge height ranges from ground level to 20 feet. Overall reach is 92 feet.

Quoting a vehicle 8 feet high, 8 feet wide by 40 feet long (capacity 2,560 cu. feet) the maker says it would take a three man crew 8 hours to load 1,800 boxes into such a space. Using the conveyor, which is designated the V.L.40, is claimed the same crew could complete the operation in 2 hours. Cost of the unit is about £2,400.

## Sorting components from sprays

FOR SORTING components from re-claimable sprays and runners ejected from an injection-moulding machine, a unit has been introduced by Albia Plastic Co. (Great Britain), York House, Empire Way, Wembley, Middlesex, HA9 0PA (01-903 7188).

The unit does not break the components away from the runners at the gating points—it has to be used with machine which has already carried out this separation. It consists of a drum on to which the injection-moulding machine's output is fed. The drum is covered with rubber spikes which collect the spray/runners scrap, which is fed to a granulator.

The maker claims the standard drum is suitable for most small mouldings, but drums with a greater number of spikes can be supplied for dealing with very small parts. It is stated that sales become a matter of marking the tag for delivery, price change due to an in-store deviations.

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The contract for the construction of the Rahad Road System is the subject of international competitive tendering on the terms of financial aid negotiated between the Democratic Republic of the Sudan and the Arab Fund for Economic and Social Development.

The project is sited in an area of semi-desert on the bank of the River Rahad, some 180 km to 300 km south-east of Khartoum.

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for instant accommodation ring (01-903 52129)  
CLOTHIERS BUILDINGS LTD  
Saxons Works, Finsbury Circus,  
E.C.2. Telephone: Finsbury 2222  
Jack cables, ink machines, motors

DATA PROCESSING  
Marks track the stock

AN INTERESTING alter-

to point of sale terminals

keeping track of sales and

and getting them into a

puter has been intro-

Data Recognition.

Called Datatag, it is based

on optical mark recogni-

tion which accompani-

es from the warehouse to

the point of sale.

Particulars, such as

name, address, telephone

number, etc., are read

into the computer.

A further important po-

that the tag can be pro-

in quantity on a standard

computer printer. Each Datatag

its OMR code and alpha-

numerical information, becomes a co-

ation sales/price/stock

device. The tag is designed

exception basis so that the

no need to mark or tou-

unless there is a diversion

the normal selling

SP computer program

be developed for the exe-

to a tag.

The unit does not break

the components away from the

runners at the gating points—it

# Building and Civil Engineering

## Sugar mill job for Sir A. McAlpine

THE KENANA Sugar Company of Khartoum, has issued a letter of intent to award a \$US18m. contract to the Sir Alfred McAlpine Group for concrete work associated with the sugar mill project of the Kenana sugar project at Kosti, in the Sudan.

Compaiges France's Etude Construction Technip, of Paris, is main contractor for the sugar mill, and Loumbo is managing the project.

Work includes the placing of 40,000 cubic metres of concrete in foundations and paving, with the contract scheduled to be completed in two years.

In October 1975, McAlpine received a contract for the first phase of the irrigation works for the Kenana project.

## Mobile crane

A BABCOCK Arcomet self-erecting mobile crane, model VK20A, will be shown for the first time in the U.K. at the Public Works Exhibition (Birmingham, November 1976).

This 20-tonne crane weighs 22,100 kg in its working condition, with a height under the hook of 20 metres, rising to a maximum of 30.1 metres when luffed to 30 deg. It can be self-propelled in the erected position.

The crane is operated from its own on-board diesel generator. It is stated to conform with the tower crane standard DIN 15018.

Details from Babcock and Wilcox, Medway (0634 41041).

## Oil terminal control

LUSOTECNA Consultores Tecnicos Industriais S.A.R.L. one of the largest independent project consulting groups in Portugal, has awarded ERA of Leatherhead, Surrey, a contract to prepare the automation system and control specifications for a crude oil

terminal and harbour complex, now under construction at Sines, near Lisbon.

The oil terminal will feed a 10m. tons per year refinery, and will also be used for transhipment of oil to Portuguese, European and American ports.

REPRODUCIBILITY of the azimuth will lie within  $\pm 20$  seconds of arc. Time required to find the angle is 30 to 35 minutes, including the setting up of the instrument. The angles can be measured almost irrespective of weather, time of day, magnetic anomalies and external electrical fields. The mean error of azimuth determination is  $\pm 15$  seconds of arc. Price is \$9,600.

More from the company at Unit 4, Hill Farm Industrial Estate, Leasden, Watford, Herts. (09273 71414).

Output is 600 cu.ft./min. at 170

psi. A new style of enclosure is stated to have reduced the noise level by 5dBa compared with previous machines of similar size.

Principal use for the machine is envisaged as providing power for "down-the-hole" rock drilling equipment, when the high pressure is claimed to provide a substantial improvement in penetration rates with 4 and 5 inch hammers, and for pile driving.

Offered with a choice of Rolls-Royce or Cummins diesel engines, the machine is mounted on a four-wheel turntable steered trailer. Maintenance is stated to be minimal.

NUCOTE PLASTICS is offering two

products, Nucote for roofs and

Nuthane for walls and suggests

they should be applied now

while the structures are still dry

and white. One thick coat of

coating will protect any roof, it

is claimed; it is in several

colours, can be applied by brush

and is stated to be an emulsion

containing mineral fillers and

silica.

Nuthane is a clear polyurethane coating, which is simply

brushed on to the wall, inside or

out to seal against penetration

by moisture. Nucote Plastics is

located at 28 The Terrace, Torquay, Devon (0803 22789).

Two NEW pavers to be intro-

duced by Blaw Knox at the

Public Works Exhibition (Birming-

ham, November 18-20) will be

available early next year

—the third, and smallest, is now

in production.

Designed for use in confined

spaces, the smallest paver, the

BK30, is fully hydrostatic, and

is stated to be suitable for

levelling narrow urban roads,

pedestrian walkways, cycle

tracks, playgrounds, and car

parts.

The medium sized BK75, also

fully hydrostatic, is intended

for both large and small paving

contracts. It is said to be easy

to operate, simple to maintain,

and gives the operator protec-

tion through guard rails on the

deck and extra safety guards

on the augers.

The large BK19, also

fully hydrostatic, is a suspended grid for ceiling

panels from Martingale Techni-

cal Services doubles as an air

terminal slot diffuser with high

air discharge capabilities for

horizontal or vertical delivery, as

well as providing support for

partitioning and for lighting

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# Namibia: independence Boer style

BY BRIDGET BLOOM

WEEK, a target date representative of Namibia's fore are not bright—but they are there. All this, particularly seen against South Africa's record on this qualified optimism is that there appears to be not merely a shift in South African policy on Namibia, but a reversal. Ever since South Africa was granted a mandate to rule the territory, in the wake of the German defeat there in 1918, Pretoria has refused to see Namibia (which it continues to call by its old name, South West Africa) as anything but an integral part of South Africa itself. Since the end of World War Two the Namibian issue has been the subject of endless rulings, resolutions and wrangles at the UN and at the World Court as the international community, spurred on by independent black Africa, has endeavoured to prove that the original mandate is now void; that the UN is the legal authority for Namibia (that name was adopted by the UN in 1968) and that South Africa should get out, allowing the UN to hold democratic elections to lead to independence.

Few people who have been following the increasingly violent struggle between white and black in South Africa and white nationalism will be surprised at these reactions. The intransigence of Mr. Smith's Government in Rhodesia has shattered the hopes of peaceful settlement there. In South Africa itself, despite some minor concessions, black protest against white rule is being repressed with increasing ferocity. Why should any black nationalist believe that in the other key areas of Southern African confrontation there should be any hope of a peaceful negotiation to demands for majority rule?

Yet this just possibly, is what last week's Windhoek announcement could mean. It is possible—if in no way certain—that Namibia could be independent in not much more than two years with a democratically elected majority government and with the approval of the UN. Such an outcome would demand enormous political courage from both South Africa and from SWAPO and it would require the sort of determined and imaginative effort from the members and by the international community that African Unity has rarely been forthcoming. The prospects there-

for the different tribal groups rapidly interpreted as having which, like their counterparts in South Africa, confined the non-white population to a disproportionately small (and poor) area of the territory and destined for an ultimate but separate independence—a solution totally contrary to the UN's insistence on respect for Namibia's territorial integrity.

Minor signs of shift from this extremely hard line began to appear in 1972, when following an adverse opinion of the World Court, South Africa invited the UN's Secretary General, Dr. Kurt Waldheim, to Namibia. The visit took place, but without positive result, and was ally excluded SWAPO.

It is only in the last few weeks to have realised that unless it is set up, the constitutional conference itself is likely to issue

signs of fundamental change, meeting the demands of the UN and SWAPO than in the past, it is certain to find itself in Namibia in ultimately the same position as the Rhodesian white people would be represented over the territory in favour of government is in now.

The second factor is internal to Namibia. There are wide cultural and ethnic differences

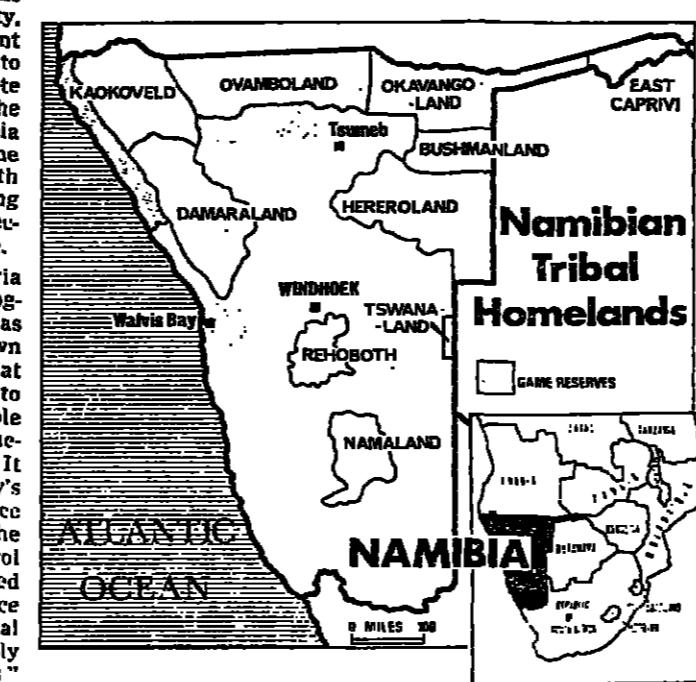
within the territory, and some state the UN will not endorse independence without SWAPO's approval, and SWAPO can continue the war if things go wrong. But SWAPO, like South Africa itself, has been finding it difficult to adjust to the new situation in southern Africa. Its

next move is probably SWAPO's. Objectively, SWAPO is in a very powerful position,

but there can be little doubt that both Pretoria and the whites within Namibia were taken aback at the cohesion of the majority of the 11 black and coloured delegations at the Windhoek conference, particularly on their opposition to apartheid and in their demands that Namibia should be independent as a unitary state.

All these factors then have influenced Mr. Vorster and the key white leaders in Namibia to seek a peaceful and possible internationally acceptable solution. It is certain that both the proposed independence of Namibia, which can be endorsed by the UN, there are no doubt members of his Cabinet, and certainly many Nationalist Party voters, who will have the gravest doubts about the implications of abandoning apartheid in Namibia. But as Mr. Vorster himself said two years ago about Rhodesia: "The alternative may well be 'too ghastly to contemplate'."

Quite clearly, Pretoria would prefer to have a government in Namibia as pliable to its own wishes as possible. It also seems



## Letters to the Editor

different  
iety

London

agent.

Press Agency.

As a Russian working

I can sympathise with

Satter's "difficulty" in

and some of the other people's way of

impressions of Moscow.

August 17). But surely

the essentials of the job

are to understand objects

of a different nature

without the aid of

sources of information

of the unreliable

"Soviet propaganda".

Indeed, many of the

journalists I have known

now, "coming in" and

"out" have welcomed the

to deepen their knowl-

edge of Soviet society and to

passers-by in the street

to make their points.

Soviet people, not their

TV and radio look at life

rose-coloured spectacles,

seen from the hundreds

of letters that pour

Press subediting every

their lives to scrutiny,

from being an "unreal

when people can exert

on the reorganisation

whole ministries and

basic amendments into

industry's five-year plans,

the much-maligned Government

consultative document is its

recognition of this fundamental

fact. It accepts the need to take

account of social, environmental

and other factors, but it does

not allow these to override or

obscure the key objective, which

is to meet customer demand.

This is some- close to everyone's life.

was generous of David

conceded that the

occasionally succeed by

an enormous effort

Apparently among

which offend him are

proclaiming disarma-

ment and friendship, lifts

down, militia control,

intensifying traffic,

embassy gates, crops

by a manufacturer

and so on... Perhaps he

lived in a high-rise flat

in "Europe" or hasn't

push the grapevine or

sources of informa-

tion in the West European

devastating the crops,

living in an "unreal

who is "isolated," Mr.

Gardens, S.W.7.

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# COMPANY NEWS + COMMENT

## Swan Hunter future still undecided

FOLLOWING discussions with its financial advisers regarding the position of the Swan Hunter Group after nationalisation, Sir John Hunter, chairman, says that it has been decided that a final decision about future activities and structure should not be made until the directors are in a position to assess the amount and form of total resources available to the company including compensation.

He feels that the determination of the latter will involve lengthy negotiations with the Government; in addition other factors will require careful consideration such as the company's tax position and the value and future prospects of those group interests unaffected by nationalisation.

Until these issues are clarified, any major decision on the company's future would be premature, says Sir John, and the interests of all holders would be best served by a non-negotiable assertion of the company's rights to the largest possible compensation, the establishment of the most favourable tax position and maximisation of the value of the group's other interests and investments by all means available.

In notes to the accounts the directors say that the compensation has been given to disclosure of the accounts, the net asset value and earnings of subsidiaries which will be taken into public ownership. Because it is not possible to estimate the amount of compensation to be received nor to identify exactly the assets and liabilities of those subsidiaries or their profits or losses the directors decided that the accounts to be presented for 1973 should be drawn up on the same basis as in prior years.

In view of the uncertainty no provision has been made in the accounts for any shortfall which may arise between compensation receivable and the amounts at which the interests in the subsidiaries concerned are included in the accounts.

The directors are also of the opinion that disclosure of this kind of such information as is available could prejudice negotiations for compensation.

In the year 1973 group pre-tax profit amounted to £5.1m, compared with £13.85m. in the previous year. Turnover amounted to £143.5m. (£148m.).

Commenting on the shipbuilding the directors say that although shipbuilding output in 1973 was maintained at a level comparable with the 1972, it was severely affected by inflation. As a result the level of profit made on several ships delivered during 1973 was substantially lower than had been anticipated and increased costs will affect the outcome of several later deliveries for which provisions have been made to cover estimated losses on these contracts.

The cumulative effect of low demand for new tonnage, high costs

### HIGHLIGHTS

The week-end post bag contains a fair batch of reports including Swan Hunter—reviewed by Lex—and Fairey. However for this week the number of companies due to release figures appears to be thinning in the lead-up to the bank holiday. Coming to-day is the full year figures from Town and City Properties, followed to-morrow by the half-yearly statement by the Weir Group. Wednesday promises to be busy with Slough Estates' interim figures, preliminaries from Associated Dairies, the third quarter profits from EOC International and the first quarter results from Johnson Matthey. Rounding off the week for major names is Associated Portland Cement which will be disclosing its interim on Thursday.

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The cumulative effect of low demand for new tonnage, high costs

chairman, and much is being done within the group to obtain a share of overseas markets. Budgeting this year includes a considerable increase in export sales albeit much being indirect export.

Meeting, Solihull, September 17 at noon.

### Fairey growth continues

THE CHAIRMAN of the Fairey Company, Mr. R. W. Holder, tells members that the Board is satisfied that the group's financial resources are sufficient for maintenance of continued growth.

Last December's rights issue strongly reinforced the capital base and enabled the growth in demand for products to be met, the chairman says.

At the same time arrangements were made with the group's bankers to finance the cyclical build-up of stocks or decline in advance associated with this type of business.

The borrowing facilities are therefore utilised to a higher extent than anticipated.

Mr. Holder says the group's further progress seems assured "so long as Government does its job by providing a reasonably stable economic and political climate."

The group continues to grow both in Belgium where a third of its employees work and in the U.K.

For the year ended March 31, 1976, pre-tax profits rose from £2.91m. to £4.92m. on turnover of £63.14m. against £38.85m. The value of direct sales from the U.K. to overseas customers amounted to £26.1m.

Capital commitments at the financial year end were some £850,000. Authorised but not committed was £208,000 (£324,000).

Meeting, Weston, Middlesex, September 15, at 3 p.m.

#### • comment

Apart from the aviation division, where profits were more than halved last year, Fairey's activities performed very well and overall group pre-tax profits lifted by £2m. Helped by the £4.9m. rights issue last December the balance sheet is also looking in good shape. Net borrowings are down by nearly £1m. to £10.95m. against a rise in working capital requirements. Shareholders' funds meanwhile have risen from £13.4m. to £21.65m. ex-equity.

So though the upturn in activity is putting pressure on working capital the balance sheet as at last March is not looking strained with borrowings down from 78 to 50 per cent. of shareholders' funds. At 60p the shares yield 7.8 per cent. and the p/e on earnings of 13.1p is 8; backed by an indication of further growth this year.

In monetary terms turnover at £15.35m. for the year to March 31, 1976, was similar to the previous year's £13.32m. but the real reduction in volume resulted in a profit before tax of £951,393 against £1.15m.

The setting up of the holding company, which included the locating of suitable and convenient offices for new headquarters and transfer of staff from various trading companies within the group, was achieved in September.

The reorganisation, with its special accent on financial management, has resulted in a considerable improvement in the liquidity and cash flow situation, says the chairman. When the year started indebtedness of the bank was about £490,000 and by the end of the year was £190,000.

The group now has money on short term deposit.

Door manufacturing and engineering was affected by the fall in demand from the industrial sector of the building industry, and considering this, the results were good.

The merchanting division, as forecast last year, returned to more normal trading conditions and competition also played its part with a commensurate reduction in turnover and profit margins. Nevertheless, the chairman considers this to be a fair return and looks forward to its continued growth.

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## OVERSEAS MARKETS

## EUROBONDS

## Wealth of new dollar issues

BY MARY CAMPBELL

**THE STRENGTH** of the dollar market, which continued well into this week, has now prompted a wealth of new issue announcements. The overall volume of U.S. dollar issues on offer is now well over \$300m. compared with under \$200m. a week ago. New issue announcements came particularly thick and fast towards the end of last week and the secondary market fell somewhat as a result.

A major feature of the latest group of new issues is the high quality of the borrowers. Among the group are Michelin, Norsk Hydro, L. M. Ericsson and Ontario Hydro. The pricing of some of the issues on the other hand is hardly generous.

The last of the issues to be announced is on the face of it the least generous. Norsk Hydro is raising \$60m. for fifteen years at 9½ per cent. This is part of a two tranche \$70m. issue, the other \$35m. offers an indicated 8½ per cent. for seven years. The lead managers are Svenska Handelsbanken, S. G. Warburg and Skandinaviska Enskilda Banken. The 15-year tranche has a 12-year-average life.

Michelin's Swiss arm is raising \$100m. also in two tranches. A \$60m. tranche offers an indicated 9½ for twelve years and a \$40m. an indicated 8½ per cent. for seven years. Joint managers are Lazard Frères and Crédit Suisse White Weld. There will be no management group but the most important underwriters will be listed in a "special bracket".

Other issues on offer include \$70m. from Ontario Hydro for seven years. Joint managers are Avisco for seven years via Kidder Peabody, indicated coupon 9½ per cent.

For American company Avco for seven years via Kidder Peabody, indicated coupon 9½ per cent.

The D-mark sector of the Eurobond market firmed up still further last week and a figure of \$600m. was set for new issues in the next week at the Thursday's meeting of the Capital Market Sub-Committee. This compares

with a DM450m. figure for August (though a DM150m. issue by the World Bank which is exempt from the Sub-Committee's cellings, in fact brought total issues this month to DM600m.).

The other 15-year issue in the market is \$35m. for L. M. Ericsson, with the coupon indicated at 9½ per cent. This is part of a two tranche \$70m. issue, the other \$35m. offers an indicated 8½ per cent. for seven years. The lead managers are Svenska Handelsbanken, S. G. Warburg and Skandinaviska Enskilda

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# AUTHORISED UNIT TRUSTS

# **INSURANCE, PROPERTY, BONDS**

# **OFFSHORE AND OVERSEAS FUNDS**

NANCIAL TIMES STOCK INDICES							
	Aug. 20	Aug. 19	Aug. 18	Aug. 17	Aug. 16	Aug. 15	A Year ago
Am. Secs.	62.14	62.16	62.24	62.25	62.20	61.95	50.94
Interest	61.97	61.94	61.94	61.92	61.88	61.68	60.52
Ordinary	370.8	375.5	376.8	376.4	377.2	374.4	315.8
es	90.3	91.9	88.9	95.2	99.6	101.0	349.7
Yield	6.01	5.97	5.91	6.90	5.88	5.92	6.59
Yield/Dividend	17.45	17.54	17.16	17.17	17.11	17.23	18.97
(net) (c) (b)	8.49	8.54	8.61	8.65	8.65	8.59	7.52
marked	4,297	4,378	4,627	4,524	4,261	4,755	5,173
revenue sec.	—	59.42	59.00	59.26	51.26	51.73	55.68
equity total	—	9,770	9,601	10,185	9,957	9,905	11,837
10 a.m. 371.8 11 a.m. 370.5 Noon 370.7 1 p.m. 370.7	2 p.m. 370.8 3 p.m. 370.6						
Latest Index 10,246 3226	Based on 32 per cent corporation tax. (b) NJ=8.41.						
100 Govt. Secs. 15/10/28. Fixed int. 1978. Ind. Ord. 1/7/35. Gold 19/55. SE Activity July-Dec. 1942.							
HIGHS AND LOWS S.E. ACTIVITY							
	1976	Since Cumpliation			Aug. 20	Aug. 19	
	High	Low	High	Low			
1. 66.21	80.19	127.4	49.18	48.18			
(201)	(21)	(9/1/88)	(4/1/75)				
64.43	68.75	150.4	50.53	43.8	65.1		
(22)	(21)	(11/11/87)	(4/17/86)	97.8	99.6		
430.8	364.7	545.6	49.4	188.2	188.6		
(45)	(46)	(10/5/82)	(2/6/84)	181.5	183.7		
346.9	38.9	442.5	42.5	44.5	47.1		
(21)	(18/6)	(2/4/86)	(2/10/81)	100.5	102.5		
FT—ACTUARIES INDICES							
	Aug. 20	Aug. 19	Aug. 18	Aug. 17	Aug. 16	Aug. 15	A year ago
1 Group	145.02	145.78	141.98	147.36	147.40	147.26	124.01
2	161.44	162.34	163.70	164.10	164.20	165.98	138.01
3 po	6.29	6.25	6.20	6.18	6.18	6.18	6.48
(net)	9.44	9.52	9.50	9.53	9.68	9.69	6.90
4	151.44	152.29	155.48	153.85	153.75	153.58	154.87

THE LADIES' INDIES

FT—ACTUARIES INDICES	Aug. 20	Aug. 19	Aug. 18	Aug. 17	Aug. 16	Aug. 15	Aug. 14	Aug. 13	A year ago
1 Group.....	145.02	145.78	141.96	147.36	147.40	147.26	124.01		
2. ....	161.44	162.34	165.70	164.10	164.20	165.96	138.01		
3. ....	8.29	6.25	6.20	5.18	5.18	5.18	6.48		
4 po .....	9.44	9.52	9.50	9.53	9.58	9.69	6.90		
(net) .....	151.44	152.29	155.45	155.83	153.75	153.58	154.87		
P.O. Box 186, Hamilton, Bermuda.									
Stretton Equity.....	\$183.74	180					200		
Buttress Income.....	\$151.74	180					8.00		
Prices as of Aug. 20. Next sub. day Sept. 12.									
Keyselex Mngt. Jersey Ltd.									
P.O. Box 94, St. Heller, Jersey. (01-600 7070)									
NAV Aug. 19.....	449								
G.T. Management (Asia) Ltd.									
37, rue Notre-Dame, Luxembourg.									
Capital Int'l. Fund.....	\$183.61								
Charterhouse Japhet									
1, Paternoster Row, EC4.		61-283000							
Aditropa.....	\$11.09	0.29		7.49					
Aditrova.....	\$10.44	0.30		7.48					
Fondak.....	\$12.49	0.30		7.48					
Hombre Pacific Fund Mgmt. Ltd.									
1, Charing Cross, St. Heller, Jersey. (034 28041)									
King & Shaxson Mgrs. (Jersey) Ltd.									
P.O. 59, St. Julian's Cr., Guernsey. (0812 26333)									
OCT-91, Fd. July 30 (24.5)	42.9						5.20		
Inc. 6/1, Aug. 12 (20.1)	120			122			120		
TSB Unit Trust Managers (C.I.) Ltd.									
1, Charing Cross, St. Heller, Jersey. (034 28041)									
Initial Pd.....	\$185.5			182.2			188.8		
Jointer Energy Trd.....	128.6			139			124		
Worldwide.....	59.0			51.4			53.0		
Value Aug. 20. Next dealing Aug. 23.									
Surinvest Copper Trust Mgrs. Ltd.									
P.O. Box 98, St. Heller, Jersey. (034 28138)									
Keyselex Int'l.....	\$16.99	7.77					2.80		
Keyselex Europe.....	\$18.485	7.80					2.90		
Keyselex Europe.....	\$4.18	6.61					2.71		
International Fd.....	\$24.5	25.7		25.1			4.90		
GT Asia Fd. (24.5)	\$183.74	180							
Surinvest Trust Managers Limited									
50, Athol Street, Douglas, Isle of Man. (0421 23814)									
Old Court Fund Mgrs. Ltd.									
P.O. 59, St. Julian's Cr., Guernsey. (0812 26333)									
OCT-91, Fd. July 30 (24.5)	42.9			42.9			5.20		
Inc. 6/1, Aug. 12 (20.1)	120			122			120		
The Silver Trust.....	\$15.9	161.1		161.1			8.70		
TSB Unit Trust Managers (C.I.) Ltd.									
1, Charing Cross, St. Heller, Jersey. (034 28041)									
Initial Pd.....	\$185.5			182.2			188.8		
Jointer Energy Trd.....	128.6			139			124		
Worldwide.....	59.0			51.4			53.0		





## Rolls RB-211 to be dropped from DC-10

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

McDONNELL DOUGLAS of the U.S. is dropping the Rolls Royce RB-211 Dash 524 engine from the DC-10 jet airliner and is expected to tell Rolls-Royce that if it wants to go on with this plan it must pay for it.

This follows last week's decision by British Airways to buy the rival L-500 long-range version of the Lockheed Tri-Star, instead of the long-range DC-10-30R aircraft offered by McDonnell Douglas.

Both aircraft were being offered with the uprated 50,000 lb thrust version of the RB-211, the Dash 524 but, whereas Lockheed has used the RB-211 for several years in earlier Tri-Star models, McDonnell Douglas was planning to spend up to \$70m. of its own money on fitting the RB-211 to the DC-10 in bid to win the British Airways order.

Even before that order was announced, the U.S. company had made it clear that if it lost, Rolls-Royce would have to take over the cost of putting the RB-211 on to the DC-10.

### Notification

This has now happened. McDonnell Douglas is initiating no new work on the RB-211 programme in the DC-10 and is allowing such work in progress to fade.

It has not told the engine company that it will spend no more money on the RB-211, but this notification is expected any day.

Thus, the initiative lies with Rolls-Royce. If it wants its engine in the DC-10 it must

make detailed proposals, backed by cash to McDonnell Douglas and wait for the latter to consider them.

Whereas McDonnell Douglas was confident that it could sell DC-10s with RB-211s worldwide if British Airways launched the programme, it is by no means as sure of that market without a British Airways commitment, notwithstanding the fact that the engine also is being offered in the Tri-Star and the Boeing 747 Jumbo jet.

The Rolls-Royce view at this stage is not known. One problem it must face is finance. Its priority cash requirements are for putting the Dash 524 in the Jumbo jet and the L-500 and it may not have enough left in reserve to pay for a DC-10 installation also—even if a market for the latter exists.

### Orders

The six new Lockheed Tri-star L-500 series aircraft ordered by British Airways mean more than £25m. worth of initial engine orders for Rolls-Royce. A company spokesman said yesterday: "This brings us to over £85m. the amount of business on order for the Dash 524 version of the RB-211."

Rolls-Royce claims that the Dash-524 engines, delivery of which starts in 1979 to British Airways, are quieter than the new, low noise standards proposed by the U.S. Federal Aviation Administration and show a 35 per cent. fuel saving compared with existing DC-8 and Boeing 707 aircraft.

## Eggs thrown at peace homes in Belfast

BY OUR OWN CORRESPONDENT

FOR THE second day running, homes of peace movement supporters in Catholic West Belfast were attacked. Flour, water and eggs were thrown over one house and windows were broken at another.

The attacks came after similar intimidation last week and warnings by Provisors that the peace marchers were "one-sided" and that the "struggle against the British goes on."

The Rev. Ian Paisley's Protestant Telegraph condemned the peace movement, which originated in the Republican Andersonstown area of Belfast, as "spurious, priest-inspired and sincere."

The second Belfast peace march and rally on Saturday attracted about 15,000 people, twice as many as turned out collection."

## Shipping earnings at near-record

BY JOHN WYLES, SHIPPING CORRESPONDENT

U.K. shipping maintained its size and efficiency of our fleet," The general council says that U.K. shipping's total earnings from freight, passenger and time-charter "receipts" was £2.07bn. (£2bn. in 1974). More than £1.82bn. came from foreign exports and cross-charge receipts which, after deducting payments made abroad for fuelling, canal and port dues, left net earnings of £551m.

This is revealed by figures issued by the General Council of British Shipping, the industry's national association, which has compiled the data from detailed returns from its 200-plus member-companies.

Lord Ince, the general council's president, said last night that the 1975 figures were "encouraging" since they were better than expected.

The general council does not publish estimates of expenditure by the U.K. on foreign shipping services which carry a substantial proportion of the country's foreign trade.

### Weather

#### U.K. TO-DAY

DRY, sunny and very warm. Isolated thundery showers in the Channel Isles, the South West, Wales and N. Ireland. Some early fog in Northern England and Scotland. Max. 37°C (81°F) in South. 34°C (75°F) in Scotland.

Outlook: Dry and very warm. Thunder showers in S.W.

Lighting up: London 21.00, Manchester 20.51, Glasgow 21.05, Belfast 21.05.

#### HOLIDAY RESORTS

	Y-day	Middle	Y-day	Middle
Amsterdam	8	10	Albuquerque	5
Paris	12	14	Paris	14
Barcelona	18	20	Barcelona	18
Madrid	20	22	Montreal	20
Stockholm	24	26	Stockholm	24
Berlin	26	28	Berlin	26
Birmingham	27	29	Birmingham	27
Brussels	27	29	Brisbane	27
Budapest	28	30	Budapest	28
Paris	29	31	Paris	29
London	30	32	London	30
Edinburgh	31	33	Edinburgh	31
Frankfurt	31	33	Frankfurt	31
Genoa	31	33	Genoa	31
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Frankfurt	31	33	Frankfurt	31
Genoa	31	33	Genoa	31
Copenhagen	31	33	Copenhagen	31
Paris	31	33	Paris	31
London	31	33	London	31
Edinburgh	31	33	Edinburgh	31
Frankfurt	31	33	Frankfurt	31
Genoa	31	33	Genoa	31
Copenhagen	31	33	Copenhagen	31
Paris	31	33	Paris	31
London	31	33	London	31
Edinburgh	31	33	Edinburgh	31
Frankfurt	31	33	Frankfurt	31
Genoa	31	33	Genoa	31
Copenhagen	31	33	Copenhagen	31
Paris	31	33		